



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2019-0906; Project Identifier 2019-NE-31-AD; Amendment 39-21111; AD 2020-08-04]

RIN 2120-AA64

Airworthiness Directives; International Aero Engines LLC, Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain International Aero Engines, LLC (IAE) PW1133G-JM, PW1133GA-JM, PW1130G-JM, PW1129G-JM, PW1127G-JM, PW1127GA-JM, PW1127G1-JM, PW1124G-JM, PW1124G1-JM, and PW1122G-JM model turbofan engines. This AD was prompted by reports of failures of certain low-pressure turbine (LPT) 3rd-stage blades. This AD requires replacement of the affected LPT 3rd-stage blades. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact International Aero Engines, LLC, 400 Main Street, East Hartford, CT, 06118; phone: 800-565-0140; email: help24@pw.utc.com; Internet: <https://fleetcare.pw.utc.com>. You may view this service information at the FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA, 01803. For information on the availability of this material at the FAA, call 781-238-7759.

Examining the AD Docket

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0906; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the regulatory evaluation, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Kevin M. Clark, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7088; fax: 781-238-7199; email: kevin.m.clark@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain International Aero Engines, LLC (IAE) PW1133G-JM, PW1133GA-JM, PW1130G-JM, PW1129G-JM, PW1127G-JM, PW1127GA-JM, PW1127G1-JM, PW1124G-JM, PW1124G1-JM, and PW1122G-JM model turbofan engines. The NPRM published in the Federal Register on November 22, 2019 (84 FR 64441). The NPRM was prompted by reports of failures of certain LPT 3rd-stage blades. The NPRM proposed to require replacement of the affected LPT 3rd-stage blades. The FAA is issuing this AD to address the unsafe condition on these products.

Comments

The FAA gave the public the opportunity to participate in developing this final rule. The following presents the comments received on the NPRM and the FAA's response to each comment.

Request to Clarify AD Applicability

An Air Macau commenter asked how the affected engine serial numbers (ESNs) were selected. The commenter also asked what the criteria was for compliance times of 90, 180, 270, and 360 days. The commenter asked how airlines could have confidence in an ESN that is very close to an ESN affected by this AD, but not incorporated into this AD.

The FAA interprets this comment as being applicable to a different published AD; AD 2019-25-01 (84 FR 65666, November 29, 2019). AD 2019-25-01 references IAE engines by ESN while this AD does not. The FAA will fully address this comment in our comment disposition to AD 2019-25-01, which will be posted in Docket No. FAA-2019-0995. In addition, to clarify that the applicability of this AD does not overlap the applicability of AD 2019-25-01, the FAA added a note to the applicability section of this AD to clarify the exclusion of engines affected by AD 2019-25-01.

Request to Revise Compliance

An individual commenter requested that the FAA, to control the risk effectively, incorporate the following requirements in the AD: (1) At a specific calendar time, and next shop visit, whichever occurs first, complete the replacement of affected LPT 3rd-stage blades; and (2) Perform inspection on specific areas of the LPT 3rd-stage blades at specific time, and repeat the inspection in a specific interval. If any defects are found that exceed the limitation, then replace the LPT 3rd-stage blades before the next flight.

The FAA disagrees. The FAA has not revised this AD because we have mandated actions for operators that have experienced a greater number of LPT 3rd-stage blades failures in AD 2019-25-01. The FAA has not incorporated the use of calendar time for performance of the required actions on the entire fleet or for general inspections of the LPT 3rd-stage blades because, based on the current failure rate for the entire fleet, this action is not required to maintain safety in accordance with FAA's risk assessment policies. Also, incorporating a general inspection of the LPT 3rd-stage blades without

targeting a specific root cause will not improve safety and may generate more mistakes and unnecessary damage to the LPT 3rd-stage blades.

Request to Clarify Compliance Time

An individual commenter noted that all the PW1100G-JM series engines with LPT 3rd-stage blades are made from the same material alloy. The commenter requested that the FAA provide the technical analysis to clarify why the other engines affected by this AD have a different compliance time than those affected by FAA AD 2019-25-01.

The FAA agrees that affected IAE engines will have the same material alloy unless the engine has either incorporated the new LPT 3rd-stage blades as identified in Pratt & Whitney (PW) Service Bulletin (SB) PW1000G-C-72-00-0111-00A-930A-D or the engine was produced since March 2019. IAE engines affected by AD 2019-25-01 are operated by operators who have experienced the majority of these LPT 3rd-stage blade failures. This demonstrates that the operation of the affected IAE engines can have an effect on the frequency of the LPT 3rd-stage blade failures. However, the entire airplane fleet will still have a risk of engine failure until the new blade design is incorporated into the engine. The required action to remove the affected LPT 3rd-stage blades from service at the next engine shop visit will address the unsafe condition for the remaining engines affected by this AD.

Request for Clarification of Definition

All Nippon Airways (ANA) commented that the definition of engine shop visit in this AD does not include a definition of “major mating engine flange.” On the other hand, PW SB PW1000G-C-72-00-0111-00A-930A-D, (“the PW SB”) indicates that flanges “E through P” are considered “major mating engine flanges.” ANA would like to confirm this AD applies when the engine is inducted into the shop for maintenance and only major mating engine flanges B or C are separated.

The definition of “engine shop visit” in this AD is accurate. The term “major mating engine flanges,” as used in this AD, is consistent with the PW SB. The term “major mating engine flanges” are flanges E through P. If only mating engine flanges B or C are separated, then this is not considered an engine shop visit, per the definition provided in this AD.

Support for the AD

The Air Line Pilots Association, an individual commenter, and anonymous commenters supported the NPRM as written.

Conclusion

The FAA reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this final rule as proposed.

Related Service Information

The FAA reviewed Pratt & Whitney SB PW1000G-C-72-00-0111-00A-930A-D, Issue No. 002, dated October 18, 2019. The service information describes procedures for removal of the affected LPT 3rd-stage blades and their replacement with parts eligible for installation.

Costs of Compliance

The FAA estimates that this AD affects 65 engines installed on airplanes of U.S. registry.

The FAA estimates the following costs to comply with this AD:

Estimated costs				
Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Replace set of LPC 3rd-stage blades	0 work-hours X \$85 per hour = \$0	\$750,000 per blade set	\$750,000	\$48,750,000

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

2020-08-04 International Aero Engines LLC: Amendment 39-21111; Docket No. FAA-2019-0906; Project Identifier 2019-NE-31-AD.

(a) Effective Date

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to International Aero Engines, LLC (IAE) PW1133G-JM, PW1133GA-JM, PW1130G-JM, PW1129G-JM, PW1127G-JM, PW1127GA-JM, PW1127G1-JM, PW1124G-JM, PW1124G1-JM, and PW1122G-JM model turbofan engines with low-pressure turbine (LPT) 3rd-stage blades, part number (P/N) 5387343, 5387493, 5387473, or 5387503, installed.

Note to paragraph (c): This AD does not apply to IAE PW1133G-JM, PW1133GA-JM, PW1130G-JM, PW1129G-JM, PW1127G-JM, PW1127GA-JM, PW1127G1-JM, PW1124G-JM, PW1124G1-JM, and PW1122G-JM model turbofan engines with engine serial numbers listed in paragraph (g) of AD 2019-25-01 (84 FR 65666, November 29, 2019).

(d) Subject

Joint Aircraft System Component (JASC) Code 7250, Turbine Section.

(e) Unsafe Condition

This AD was prompted by reports of failure of certain LPT 3rd-stage blades. The FAA is issuing this AD to prevent failure of these LPT 3rd-stage blades. The unsafe condition, if not addressed, could result in uncontained release of the LPT 3rd-stage blades, failure of one or more engines, loss of thrust control, and loss of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

At the next engine shop visit after the effective date of this AD, remove from service any LPT 3rd-stage blade, P/N 5387343, 5387493, 5387473, or 5387503, and replace with a part eligible for installation.

(h) Definitions

(1) For the purpose of this AD, an “engine shop visit” is the induction of an engine into the shop for maintenance involving the separation of pairs of major mating engine flanges, except that the separation of engine flanges solely for the purposes of transportation of the engine without subsequent engine maintenance does not constitute an engine shop visit.

(2) For the purpose of this AD, a “part eligible for installation” is any LPT 3rd-stage blade that does not have a P/N 5387343, 5387493, 5387473, or 5387503.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the

certification office, send it to the attention of the person identified in paragraph (j) of this AD. You may email your request to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(j) Related Information

For more information about this AD, contact Kevin M. Clark, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7088; fax: 781-238-7199; email: kevin.m.clark@faa.gov.

(k) Material Incorporated by Reference

None.

Issued on April 10, 2020.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2020-08002 Filed: 4/15/2020 8:45 am; Publication Date: 4/16/2020]